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| 10/077,708 | 02/15/2002 | Robert V. Kieronki | 83587 | 4023 |

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DEPARTMENT OF THE NAVY
OFFICE OF COUNSEL
NAVAL UNDERSEA WARFARE CENTER DIVISION
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NEWPORT, RI 02841-1708

EXAMINER

PATTERSON, MARC A

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 05/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,708

Applicant(s)

KIERONSKI, ROBERT V.

Examiner

Marc A Patterson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7 – 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to Claim 7, the phrase ‘a part comprising a part and a strength material’ is indefinite as its meaning is unclear; the preamble states that the invention comprises a part, but the claim as a whole indicates that the invention comprises more than a part. For purposes of examination, the phrase will be assumed to mean that the part comprises a ‘component’ and a ‘material,’ rather than a ‘part’ and a ‘material.’ The phrase ‘strength material’ is also indefinite, as its meaning is unclear. For purposes of examination, the phrase will be assumed to mean ‘material.’ The term "high" in claim 7 is a relative term which renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claim 7 recites the limitation "interior" in lines 3 and 5. There is insufficient antecedent basis for this limitation in the claim.

3. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase ‘integral’ is indefinite as its meaning is unclear. For purposes of examination, the phrase will be assumed to mean having any place in the claimed part. The

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phrase 'to create a gap' is indefinite as it appears to be directed to a desired result of the invention, rather than a structural limitation. The phrase also appears to be directed to a method limitation, which is given little patentable weight as discussed below. Claim 8 recites the limitation "interior" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 7 – 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hull et al (U.S. Patent No. 5,104,592).

With regard to Claim 7, Hull et al disclose a part (building part; column 12, lines 49 – 56) comprising a first component made from a photocurable polymer (column 2, lines 45 – 56) and having opposing surfaces (column 12, lines 49 – 56; Figure 7) and a material interposed between and bonded to the opposing interior surfaces (rivets; column 12, lines 49 – 56; Figure 7)

With regard to Claim 8, the material is comprises spaced apart supports (column 12, lines 49 – 56; Figure 7). With regard to the claimed aspect of the supports 'creating' a gap, the scope of the claims falls within the limitations of Hull et al as discussed above. The method of making the part is given little patentable weight.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hull et al (U.S. Patent No. 5,104,592) in view of Komori et al (U.S. Patent No. 5,948,514).

Hull et al disclose a part comprising a photocurable polymer as discussed above. With regard to Claim 9, Hull et al fail to disclose a polymer comprising a mixture of an epichlorohydrin resin, catalyst and filler particles.

Komori et al teach a photocurable polymer comprising a mixture of an epichlorohydrin resin (column 13, lines 35 – 42), a catalyst (aid for augmenting curing photocuring properties; column 11, lines 26 – 33) and filler particles (column 12, lines 46 – 59) for the purpose of obtaining a resin which is heat – resistant (column 3, lines 3 – 10). The desirability of providing for a polymer comprising a mixture of an epichlorohydrin resin, catalyst and filler particles in Hull et al, which comprises a photocurable polymer, would therefore be obvious to one of ordinary skill in the art in view of Komori et al.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a polymer comprising a mixture of an epichlorohydrin resin, catalyst and filler particles in Hull et al in order to obtaining a resin which is heat – resistant as taught by Komori et al.

With regard to Claim 10, Komori et al teach a methylenedomethylene catalyst (catalyst for dissolution; column 5, lines 66 – 67; column 6, lines 1 – 14).

With regard to Claims 11 – 13, Komori et al teach a filler comprising glass fibers (column 12, lines 46 – 59). Komori et al fail to disclose a methylenedomethylene in a proportion of 80 – 90 weight percent of the epichlorohydrin resin, and glass fibers in the range of 1/32 to 1/64 of an inch in length, and glass fibers in the range of 50 – 60 weight percent of the epichlorohydrin resin. However, Hull et al disclose methylenedomethylene in a proportion of 50 weight percent of the epichlorohydrin resin (column 11, lines 56 – 65), and glass fibers at least in the range of microscopic length (the resin comprises glass fibers; column 12, lines 46 – 59), and glass fibers at least in the range of 1 weight percent of the epichlorohydrin resin (the resin comprises glass fibers; column 12, lines 46 – 59). Therefore, the amounts of methylenedomethylene and glass fibers and the length of the glass fibers. would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the amounts of methylenedomethylene and glass fibers and the length of the glass fibers, since the amounts of methylenedomethylene and glass fibers and the length of the glass fibers would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Komori et al. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

With regard to Claim 14, Komori et al disclose a filler comprising clay (column 12, lines 46 – 59); the claimed aspect of the filler comprising ‘aluminum powder’ therefore reads on Hull et al.

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8. Claims 15 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hull et al (U.S. Patent No. 5,104,592) in view of Komori et al (U.S. Patent No. 5,948,514) and further in view of Vandenberg et al (U.S. Patent No. 3,634,303).

Hull et al and Komori et al disclose a part comprising epichlorohydrin as discussed above. With regard to Claims 15 – 17, Hull et al and Komori et al fail to disclose a mesh wetted with a catalyzed epichlorohydrin.

Vandenberg et al teach that a mesh wetted with epichlorohydrin is equivalent to epichlorohydrin (column 15, lines 54 – 62) for the purpose of obtaining a polymeric material having high impact strength (column 16, lines 1 – 12). The desirability of providing for a mesh wetted with a catalyzed epichlorohydrin in Hull et al and Komori et al, which is a building part, would therefore be obvious to one of ordinary skill in the art in view of Vandenberg et al.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a mesh wetted with a catalyzed epichlorohydrin in Hull et al and Komori et al in order to obtain a polymeric material having high impact strength as taught by Vandenberg et al.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold

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Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.

Marc Patterson
Art Unit 1772

[Signature]
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772 *5/1/03*